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TIPS FOR THE MANAGEMENT OF ORNAMENTAL FISH DISEASES

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'An ounce of prevention is worth a pound of cure' is a familiar phrase that hints the ideal way of approach for controlling fish diseases. Though there is a great demand these days for ornamental fishes as 'silent pets', fish keepers are often haunted by problems of diseases and mortalities. Much of these problems can be avoided if one pays a little attention in keeping the fishes in a perfectly balanced environment with minimum stressful situations.

Many diseases of fish are due to environmental deterioration. It is important, to ensure adequate dissolved oxygen and to avoid elevated ammonia and carbon dioxide levels in rearing water. Care should be taken to prevent accumulation of organic matter and to avoid sudden changes in temperature. Good husbandry methods, frequent observation of the fish and regular monitoring of water quality parameters are of prime importance in preventing the diseases. However, diseases may develop even if preventive measures are adopted particularly when fish are maintained in artificial environments. Hence more often than is desirable, drugs and chemicals are required to prevent, control or treat infectious diseases.

Introduction of new fish or aquatic plants may be a source of infection in to an established unit. Therefore when one does this, strict quarantine measures are essential. A separate quarantine tank with filtration system will be useful for this purpose. Prophylactic treatments are of value during quarantine period and should be done with caution. If the fishes are already stressed, they may be more susceptible to the toxic effects of the treatment. Usually a bath treatment in a dilute solution of Potassium permanganate will serve the purpose.

Major infectious agents causing diseases in ornamental fish are bacteria, fungi, virus and parasites (both protozoan and metazoan). Many of the symptoms are mostly non-specific, irrespective of the disease agent. These include loss of appetite, sluggishness, aimless swimming, hanging from surface or lying on the bottom, slow reflexes/ reaction to disturbances, rubbing against surfaces as if to scrape something off the body, loss of luster, ragged fins, lesions, white spots, warts or growth of any kind, pop-eyes (exophthalmia), swelling of abdomen (dropsied condition) with or without eruption of scales, excess mucus production on the body surface and gills etc.

A proper diagnosis of the disease is a must before resorting to any treatment. It is always better to get advise from qualified personnel, if possible. However, in emergency situations treatment may be given based on presumptive diagnosis. A closer inspection of fish water in a separate vessel or a polythene bag may give a clue regarding as to what is wrong with the fish. If one or a few fish only are suffering, isolate them immediately. If an entire tank or pond is affected, then large-scale measures must be taken. Often the problem can be solved through the manipulation of the tank environment. In general, for fresh water fish, a short bath in salt water (1-2% NaCl) and for marine/ brackish water fish, a short bath treatment in fresh water (reverse salinity treatment) will be effective in controlling most of the ectoparasites. Sometimes other chemical treatments may be necessary. Since tissue residues are not a big concern in ornamental fish, the range of products available for ornamental fish therapy is more compared to that of food fish.

An aquarist should be very careful in choosing the correct treatment chemical. Care should

be taken to avoid substances that are claimed to be cure for everything. Medications are usually administered by dissolving them in water or sometimes given mixed with feed, especially for treating systemic infections. Medication, if dissolved in water may be filtered before administration, otherwise undissolved particles present in the solution may be consumed by fish with disastrous results.

Water quality and temperature greatly influence the effectiveness and toxicity of many chemicals. Smaller fish often can not tolerate chemical dosages that are safe for larger fish. Condition of fish, especially of skin and gills is critical while giving immersion treatment. Determination of the correct volume of water in a tank or pond is critical to safe and effective treatment. If the fish are held in small tanks that can be rapidly flushed, bath treatments of few minutes to a few hours can be given. However, if fish are held in ponds where rapid water exchange is not pos-

sible, an indefinite/prolonged bath with a low concentration of the chemical is the only practical procedure. Treatment frequency is decided based on the effect of the first treatment and the potential for recurrent infection.

Nowadays, a variety of snails are used in aquaria for decorative purposes or with the intention of removing the algal patches on the glass walls. Since most of the snails act as vectors for trematode parasites, one should be very careful before introducing snails from the wild in to the aquarium. Feeding aquarium fish with tubifex worms can also be a source of infection since tubifex worms are vectors for some protozoan parasites.

Some of the most commonly used and easily available chemicals for controlling diseases in aquarium fishes are given below with their general recommended dosages. Dosages may vary depending on the size, species and condition of fish, water quality etc.

Chemical	Method of treatment	Dose and Duration	Remarks
Formalin	Bath	0.10– 0.25 ml/l up to 1hr or 0.015 –0.025 ml/l prolonged bath	Antiparasitic and Antifungal agent. More toxic in soft waters. Provide strong aeration during treatment.
Potassium permanganate	Bath	2 – 5 mg/l for 1 to 24 hrs.	Antimicrobial and antiparasitic agent.
Malachite green	Bath	0.5 – 2 mg/l upto 1hr. 0.1mg/l for 1-4 days	Antifungal and antiprotozoal agent

